

RAW SEQUENCE LISTING

**The Biotechnology Systems Branch of the Scientific and Technical
Information Center (STIC) no errors detected.**

Application Serial Number: 10/576,982
Source: IFWP
Date Processed by STIC: 5/3/06

ENTERED



IFWP

RAW SEQUENCE LISTING

DATE: 05/03/2006

PATENT APPLICATION: US/10/576,982

TIME: 11:21:20

Input Set : A:\50021-026.txt

Output Set: N:\CRF4\05032006\J576982.raw

3 <110> APPLICANT: Queensland University of Technology
 5 <120> TITLE OF INVENTION: Protein expression
 7 <130> FILE REFERENCE: S80769691
 C--> 9 <140> CURRENT APPLICATION NUMBER: US/10/576,982
 C--> 9 <141> CURRENT FILING DATE: 2006-04-24
 9 <150> PRIOR APPLICATION NUMBER: 2003905886
 10 <151> PRIOR FILING DATE: 2003-10-24
 12 <160> NUMBER OF SEQ ID NOS: 20
 14 <170> SOFTWARE: PatentIn version 3.2
 16 <210> SEQ ID NO: 1
 17 <211> LENGTH: 50
 18 <212> TYPE: PRT
 19 <213> ORGANISM: Lactobacillus fermentum
 21 <400> SEQUENCE: 1
 23 Asp Thr Ile Tyr Thr Val Gln Ser Gly Asp Thr Leu Ser Gly Ile Ser
 24 1 5 10 15
 27 Tyr Lys Phe Ala Lys Asp Asn Ser Met Ile Asn Asp Leu Ala Lys Lys
 28 20 25 30
 31 Asn Asn Ile Gln Asp Ile Asn Lys Ile Phe Val Gly Gln Lys Leu Ile
 32 35 40 45
 35 Ile Lys
 36 50
 39 <210> SEQ ID NO: 2
 40 <211> LENGTH: 81
 41 <212> TYPE: PRT
 42 <213> ORGANISM: Lactobacillus fermentum
 44 <400> SEQUENCE: 2
 46 Ser Tyr Thr Ser Asn Ala Ser Gly Ser Glu Ala Ala Ala Lys Ala Trp
 47 1 5 10 15
 50 Ile Ala Gly Arg Glu Ser Gly Gly Asn Tyr Asn Ala Thr Asn Gly Gln
 51 20 25 30
 54 Tyr Ile Gly Lys Tyr Gln Leu Ala Ala Ser Tyr Leu Gly Gly Asp Tyr
 55 35 40 45
 58 Ser Pro Ala Asn Gln Glu Arg Val Ala Asp Gln Tyr Val Ala Ser Arg
 59 50 55 60
 62 Tyr Gly Ser Trp Thr Ala Ala Gln Gln Phe Trp Gln Ala Asn Gly Trp
 63 65 70 75 80
 66 Tyr
 70 <210> SEQ ID NO: 3
 71 <211> LENGTH: 44
 72 <212> TYPE: PRT
 73 <213> ORGANISM: Lactobacillus fermentum
 75 <400> SEQUENCE: 3

P.6

RAW SEQUENCE LISTING

DATE: 05/03/2006

PATENT APPLICATION: US/10/576,982

TIME: 11:21:20

Input Set : A:\50021-026.txt

Output Set: N:\CRF4\05032006\J576982.raw

```

77 Ser Asp Gly Glu Ile Gln Glu Tyr Asn Ala Gln Asn Ala Ala Asn Ala
78 1          5          10          15
81 Asn Val Ala Asn Asn Asn Thr Gln Ala Thr Gln Gln Gln Thr Ala Gln
82          20          25          30
85 Ala Gln Pro Gln Gln Ala Gln Ser Gln Ala Asn Gln
86          35          40
89 <210> SEQ ID NO: 4
90 <211> LENGTH: 30
91 <212> TYPE: PRT
92 <213> ORGANISM: Lactobacillus fermentum
94 <400> SEQUENCE: 4
96 Met Ile Ser Lys Lys Asn Phe Ala Lys Val Ser Ala Thr Leu Gly Ala
97 1          5          10          15
100 Val Ala Leu Gly Val Ser Ala Thr Ala Thr Ala Ala Asn Ala
101          20          25          30
104 <210> SEQ ID NO: 5
105 <211> LENGTH: 175
106 <212> TYPE: PRT
107 <213> ORGANISM: Lactobacillus fermentum
109 <400> SEQUENCE: 5
111 Asp Thr Ile Tyr Thr Val Gln Ser Gly Asp Thr Leu Ser Gly Ile Ser
112 1          5          10          15
115 Tyr Lys Phe Ala Lys Asp Asn Ser Met Ile Asn Asp Leu Ala Lys Lys
116          20          25          30
119 Asn Asn Ile Gln Asp Ile Asn Lys Ile Phe Val Gly Gln Lys Leu Ile
120          35          40          45
123 Ile Lys Ser Asp Gly Glu Ile Gln Glu Tyr Asn Ala Gln Asn Ala Ala
124          50          55          60
127 Asn Ala Asn Val Ala Asn Asn Asn Thr Gln Ala Thr Gln Gln Gln Thr
128 65          70          75          80
131 Ala Gln Ala Gln Pro Gln Gln Ala Gln Ser Gln Ala Asn Gln Ser Tyr
132          85          90          95
135 Thr Ser Asn Ala Ser Gly Ser Glu Ala Ala Ala Lys Ala Trp Ile Ala
136          100          105          110
139 Gly Arg Glu Ser Gly Gly Asn Tyr Asn Ala Thr Asn Gly Gln Tyr Ile
140          115          120          125
143 Gly Lys Tyr Gln Leu Ala Ala Ser Tyr Leu Gly Gly Asp Tyr Ser Pro
144          130          135          140
147 Ala Asn Gln Glu Arg Val Ala Asp Gln Tyr Val Ala Ser Arg Tyr Gly
148 145          150          155          160
151 Ser Trp Thr Ala Ala Gln Gln Phe Trp Gln Ala Asn Gly Trp Tyr
152          165          170          175
155 <210> SEQ ID NO: 6
156 <211> LENGTH: 205
157 <212> TYPE: PRT
158 <213> ORGANISM: Lactobacillus fermentum
160 <400> SEQUENCE: 6
162 Met Ile Ser Lys Lys Asn Phe Ala Lys Val Ser Ala Thr Leu Gly Ala
163 1          5          10          15

```

RAW SEQUENCE LISTING

DATE: 05/03/2006

PATENT APPLICATION: US/10/576,982

TIME: 11:21:20

Input Set : A:\50021-026.txt

Output Set: N:\CRF4\05032006\J576982.raw

```

166 Val Ala Leu Gly Val Ser Ala Thr Ala Thr Ala Ala Asn Ala Asp Thr
167           20           25           30
170 Ile Tyr Thr Val Gln Ser Gly Asp Thr Leu Ser Gly Ile Ser Tyr Lys
171           35           40           45
174 Phe Ala Lys Asp Asn Ser Met Ile Asn Asp Leu Ala Lys Lys Asn Asn
175           50           55           60
178 Ile Gln Asp Ile Asn Lys Ile Phe Val Gly Gln Lys Leu Ile Ile Lys
179 65           70           75           80
182 Ser Asp Gly Glu Ile Gln Glu Tyr Asn Ala Gln Asn Ala Ala Asn Ala
183           85           90           95
186 Asn Val Ala Asn Asn Asn Thr Gln Ala Thr Gln Gln Gln Thr Ala Gln
187           100          105          110
190 Ala Gln Pro Gln Gln Ala Gln Ser Gln Ala Asn Gln Ser Tyr Thr Ser
191           115          120          125
194 Asn Ala Ser Gly Ser Glu Ala Ala Ala Lys Ala Trp Ile Ala Gly Arg
195           130          135          140
198 Glu Ser Gly Gly Asn Tyr Asn Ala Thr Asn Gly Gln Tyr Ile Gly Lys
199 145          150          155          160
202 Tyr Gln Leu Ala Ala Ser Tyr Leu Gly Gly Asp Tyr Ser Pro Ala Asn
203           165          170          175
206 Gln Glu Arg Val Ala Asp Gln Tyr Val Ala Ser Arg Tyr Gly Ser Trp
207           180          185          190
210 Thr Ala Ala Gln Gln Phe Trp Gln Ala Asn Gly Trp Tyr
211           195          200          205

```

214 <210> SEQ ID NO: 7

215 <211> LENGTH: 90

216 <212> TYPE: DNA

217 <213> ORGANISM: Lactobacillus fermentum

219 <400> SEQUENCE: 7

220 atgatttcta agaaaaactt tgctaaagta tctgctactc ttggtgcagt ggccttaggt 60

222 gttagtgc aa cggctactgc tgctaagtct 90

225 <210> SEQ ID NO: 8

226 <211> LENGTH: 150

227 <212> TYPE: DNA

228 <213> ORGANISM: Lactobacillus fermentum

230 <400> SEQUENCE: 8

231 gacactatct acaccgtaca aagtgggtgac acactttcag gtatttctta caaatttgct 60

233 aaagacaaca gtatgatcaa tgatcttgct aagaagaaca atattcaaga tattaacaag 120

235 atttttggtg gtcaaaagtt aatcatcaag 150

238 <210> SEQ ID NO: 9

239 <211> LENGTH: 132

240 <212> TYPE: DNA

241 <213> ORGANISM: Lactobacillus fermentum

243 <400> SEQUENCE: 9

244 agcgatgggtg aaattcaaga atacaatgct caaatgcag ctaatgcaaa ttagtagcaaac 60

246 aacaatactc aagctacaca acaacaaact gctcaagcac aacctcaaca agcacaagc 120

248 caagctaacc aa 132

251 <210> SEQ ID NO: 10

252 <211> LENGTH: 246

RAW SEQUENCE LISTING

DATE: 05/03/2006

PATENT APPLICATION: US/10/576,982

TIME: 11:21:20

Input Set : A:\50021-026.txt

Output Set: N:\CRF4\05032006\J576982.raw

```

253 <212> TYPE: DNA
254 <213> ORGANISM: Lactobacillus fermentum
256 <400> SEQUENCE: 10
257 agctacactt caaatgcttc aggttcagaa gctgctgcta aagcttggat tgccgggtcgt      60
259 gaatcaggtg gtaactacaa cgccacaaac ggtcaatata ttggtaagta ccaattagct      120
261 gcatcatacc ttgggtggga ctactcacca gctaaccaag aacgcgttgc tgaccaatac      180
263 gttgcagtc gttacgggtc ttggactgct gcccaacaat tctggcaagc aaacggttgg      240
265 tactaa                                          246
268 <210> SEQ ID NO: 11
269 <211> LENGTH: 528
270 <212> TYPE: DNA
271 <213> ORGANISM: Lactobacillus fermentum
273 <400> SEQUENCE: 11
274 gacactatct acaccgtaca aagtgggtgac acactttcag gtattttctta caaatttgct      60
276 aaagacaaca gtatgatcaa tgatcttgct aagaagaaca atattcaaga tattaacaag      120
278 atttttgttg gtcaaaagtt aatcatcaag agcgatgggtg aaattcaaga atacaatgct      180
280 caaaatgcag ctaatgcaaa tgtagcaaac aacaatactc aagctacaca acaacaaact      240
282 gctcaagcac aacctcaaca agcacaaagc caagctaacc aaagctacac ttcaaagtct      300
284 tcaggttcag aagctgctgc taaagcttgg attgccggtc gtgaatcagg tggtaactac      360
286 aacgccacaa acggtcaata cattggtaag taccaattag ctgcatcata ccttgggtgg      420
288 gactactcac cagctaacca agaacgcgtt gctgaccaat acgttgcaag tcgttacggt      480
290 tcttggactg ctgccaaca attctggcaa gcaaacggtt ggtactaa                    528
293 <210> SEQ ID NO: 12
294 <211> LENGTH: 618
295 <212> TYPE: DNA
296 <213> ORGANISM: Lactobacillus fermentum
298 <400> SEQUENCE: 12
299 atgatttcta agaaaaactt tgctaaagta tctgtacttc ttggtgcagt ggccttaggt      60
301 gttagtgc aa cggctactgc tgctaattgct gacactatct acaccgtaca aagtgggtgac      120
303 acactttcag gtattttctta caaatttgct aaagacaaca gtatgatcaa tgatcttgct      180
305 aagaagaaca atattcaaga tattaacaag atttttgttg gtcaaaagtt aatcatcaag      240
307 agcgatgggtg aaattcaaga atacaatgct caaaatgcag ctaatgcaaa tgtagcaaac      300
309 aacaatactc aagctacaca acaacaaact gctcaagcac aacctcaaca agcacaaagc      360
311 caagctaacc aaagctacac ttcaaagtct tcaggttcag aagctgctgc taaagcttgg      420
313 attgccggtc gtgaatcagg tggtaactac aacgccacaa acggtcaata cattggtaag      480
315 taccaattag ctgcatcata ccttgggtgg gactactcac cagctaacca agaacgcgtt      540
317 gctgaccaat acgttgcaag tcgttacggt tcttggactg ctgccaaca attctggcaa      600
319 gcaaacggtt ggtactaa                                          618
322 <210> SEQ ID NO: 13
323 <211> LENGTH: 90
324 <212> TYPE: DNA
325 <213> ORGANISM: Lactobacillus fermentum
328 <220> FEATURE:
329 <221> NAME/KEY: misc_feature
330 <222> LOCATION: (9)..(9)
331 <223> OTHER INFORMATION: any nucleotide
333 <220> FEATURE:
334 <221> NAME/KEY: misc_feature
335 <222> LOCATION: (24)..(24),

```

RAW SEQUENCE LISTING

DATE: 05/03/2006

PATENT APPLICATION: US/10/576,982

TIME: 11:21:20

Input Set : A:\50021-026.txt

Output Set: N:\CRF4\05032006\J576982.raw

336 <223> OTHER INFORMATION: any nucleotide
338 <220> FEATURE:
339 <221> NAME/KEY: misc_feature
340 <222> LOCATION: (30)..(30)
341 <223> OTHER INFORMATION: any nucleotide
343 <220> FEATURE:
344 <221> NAME/KEY: misc_feature
345 <222> LOCATION: (33)..(33)
346 <223> OTHER INFORMATION: any nucleotide
348 <220> FEATURE:
349 <221> NAME/KEY: misc_feature
350 <222> LOCATION: (36)..(36)
351 <223> OTHER INFORMATION: any nucleotide
353 <220> FEATURE:
354 <221> NAME/KEY: misc_feature
355 <222> LOCATION: (39)..(39)
356 <223> OTHER INFORMATION: any nucleotide
358 <220> FEATURE:
359 <221> NAME/KEY: misc_feature
360 <222> LOCATION: (42)..(42)
361 <223> OTHER INFORMATION: any nucleotide
363 <220> FEATURE:
364 <221> NAME/KEY: misc_feature
365 <222> LOCATION: (45)..(45)
366 <223> OTHER INFORMATION: any nucleotide
368 <220> FEATURE:
369 <221> NAME/KEY: misc_feature
370 <222> LOCATION: (48)..(48)
371 <223> OTHER INFORMATION: any nucleotide
373 <220> FEATURE:
374 <221> NAME/KEY: misc_feature
375 <222> LOCATION: (51)..(51)
376 <223> OTHER INFORMATION: any nucleotide
378 <220> FEATURE:
379 <221> NAME/KEY: misc_feature
380 <222> LOCATION: (54)..(54)
381 <223> OTHER INFORMATION: any nucleotide
383 <220> FEATURE:
384 <221> NAME/KEY: misc_feature
385 <222> LOCATION: (57)..(57)
386 <223> OTHER INFORMATION: any nucleotide
388 <220> FEATURE:
389 <221> NAME/KEY: misc_feature
390 <222> LOCATION: (60)..(60)
391 <223> OTHER INFORMATION: any nucleotide
393 <220> FEATURE:
394 <221> NAME/KEY: misc_feature
395 <222> LOCATION: (63)..(63)
396 <223> OTHER INFORMATION: any nucleotide

RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/10/576,982

DATE: 05/03/2006
TIME: 11:21:21

Input Set : A:\50021-026.txt
Output Set: N:\CRF4\05032006\J576982.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:13; N Pos. 9,24,30,33,36,39,42,45,48,51,54,57,60,63,66,69,72,75,78,81
Seq#:13; N Pos. 84,90
Seq#:14; N Pos. 6,15,18,24,27,33,36,39,42,48,60,72,87,90,129,132,141
Seq#:15; N Pos. 3,9,30,39,42,48,54,57,69,75,78,90,93,99,105,114,120,126
Seq#:16; N Pos. 3,9,12,18,21,24,27,33,36,39,45,54,57,60,66,69,72,84,87,93
Seq#:16; N Pos. 105,117,120,123,126,132,135,138,147,150,153,165,168,171,183
Seq#:16; N Pos. 186,189,192,198,201,207,210,213,231,237
Seq#:17; N Pos. 6,15,18,24,27,33,36,39,42,48,60,72,87,90,129,132,141,153
Seq#:17; N Pos. 159,180,189,192,198,204,207,219,225,228,240,243,249,255,264
Seq#:17; N Pos. 270,276,285,291,294,300,303,306,309,315,318,321,327,336,339
Seq#:17; N Pos. 342,348,351,354,366,369,375,387,399,402,405,408,414,417,420
Seq#:17; N Pos. 429,432,435,447,450,453,465,468,471,474,480,483,489,492,495
Seq#:17; N Pos. 513,519
Seq#:18; N Pos. 9,24,30,33,36,39,42,45,48,51,54,57,60,63,66,69,72,75,78,81
Seq#:18; N Pos. 84,90,96,105,108,114,117,123,126,129,132,138,150,162,177
Seq#:18; N Pos. 180,219,222,231,243,249,270,279,282,288,294,297,309,315,318
Seq#:18; N Pos. 330,333,339,345,354,360,366,375,381,384,390,393,396,399,405
Seq#:18; N Pos. 408,411,417,426,429,432,438,441,444,456,459,465,477,489,492
Seq#:18; N Pos. 495,498,504,507,510,519,522,525,537,540,543,555,558,561,564
Seq#:18; N Pos. 570,573,579,582,585,603,609

VERIFICATION SUMMARY

DATE: 05/03/2006

PATENT APPLICATION: US/10/576,982

TIME: 11:21:21

Input Set : A:\50021-026.txt

Output Set: N:\CRF4\05032006\J576982.raw

L:9 M:270 C: Current Application Number differs, Replaced Current Application No
L:9 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:439 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13 after pos.:0
L:441 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13 after pos.:60
L:536 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14 after pos.:0
L:538 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14 after pos.:60
L:540 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14 after pos.:120
L:640 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15 after pos.:0
L:642 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15 after pos.:60
L:644 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15 after pos.:120
L:879 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16 after pos.:0
L:881 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16 after pos.:60
L:883 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16 after pos.:120
L:885 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16 after pos.:180
L:1297 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17 after pos.:0
L:1299 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17 after pos.:60
L:1301 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17 after pos.:120
L:1303 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17 after pos.:180
L:1305 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17 after pos.:240
L:1307 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17 after pos.:300
L:1309 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17 after pos.:360
L:1311 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17 after pos.:420
L:1313 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17 after pos.:480
L:1833 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:18 after pos.:0
L:1835 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:18 after pos.:60
L:1837 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:18 after pos.:120
L:1839 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:18 after pos.:180
L:1841 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:18 after pos.:240
L:1843 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:18 after pos.:300
L:1845 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:18 after pos.:360
L:1847 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:18 after pos.:420
L:1849 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:18 after pos.:480
L:1851 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:18 after pos.:540
L:1853 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:18 after pos.:600